

<b>DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION (37 CFR 1.63)</b>		Attorney Docket Number	42P17214
		First Named Inventor	Alex E. Henderson
<input type="checkbox"/> Declaration Submitted with Initial Filing <b>OR</b> <input checked="" type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16(e)) required)		<b>COMPLETE IF KNOWN</b>	
		Application Number	10/637,122
		Filing Date	August 8, 2003
		Art Unit	
		Examiner Name	

As a below named inventor, I hereby declare that:

My residence, mailing address, and citizenship are as stated below, next to my name.

I believe I am the original and first inventor (if only one name listed below) or an original and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

**Three Data Structure with Range-Specifying Keys and Associated Methods and Apparatus**

*(Title of the Invention)*

the specification of which

☐ is attached hereto.

OR

☒ was filed on (if applicable):

or 08/08/2003 as United States Application Number 10/637,122

PCT International Application Number \_\_\_\_\_

and was amended on \_\_\_\_\_ (if applicable)

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment specifically referred to above.

I do not know and do not believe that the claimed invention was ever known or used in the United States of America before my invention thereof, or patented or described in any printed publication in any country before my invention thereof or more than one year prior to this application. I do not know and do not believe that the claimed invention was in public use or on sale in the United States of America more than one year prior to this application, nor do I know or believe that the invention has been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months (for a utility patent application) or six months (for a design patent application) prior to this application.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.



I hereby claim foreign priority benefits under 35 U.S.C. 119(a)-(d) or (f), or 365(h) of any foreign application(s) for patent, or inventor's or plant breeder's rights certificate(s), or 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below, by checking the box, any foreign application for patent, inventor's or plant breeder's rights certificate(s), or any PCT international application having a filing date before that of the application on which priority is claimed.

**Prior Foreign Application(s):**

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?
			<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith.

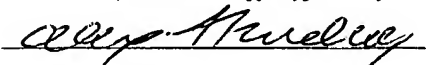
Direct all correspondence to: ☒ Customer Number **08791** or ☐ Correspondence address below

Name		
Address		
City	State	Zip Code
Country	Telephone (503) 684-6200	Fax (503) 684-3245

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**NAME OF SOLE OR FIRST INVENTOR:** ☐ A petition has been filed for this undersigned inventor

Full Name: Alex E. Henderson  
*(First, Middle [if any], Family Name (or Surname), and Suffix [if any])*

Inventor's Signature  Date 9/15/2003

Residence Hillsborough, California USA Citizenship USA  
*(City, State, Country)* *(Country)*

Mailing Address 40 Denise Drive  
Hillsborough, California 94010 USA



**NAME OF SECOND INVENTOR:** ☐ A petition has been filed for this undersigned inventor

Full Name: Laxminarayana Tumuluru  
(First, Middle [if any], Family Name (or Surname), and Suffix [if any])  
Inventor's Signature Laxminarayana Date 01/06/2004  
Residence SUNNYVALE Mountain View, California USA Citizenship INDIA  
(City, State, Country) (Country)  
Mailing Address PO Box 390869 355 N. WOLFE ROAD, APT 628  
Mountain View, California 94039 USA SUNNYVALE, CA - 94085

**NAME OF THIRD INVENTOR:** ☐ A petition has been filed for this undersigned inventor

Full Name: Monis Rahman  
(First, Middle [if any], Family Name (or Surname), and Suffix [if any])  
Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_  
Residence South Windsor, Connecticut USA Citizenship USA  
(City, State, Country) (Country)  
Mailing Address 93 Rockledge Drive  
South Windsor, Connecticut 06074 USA

**NAME OF FOURTH INVENTOR:** ☐ A petition has been filed for this undersigned inventor

Full Name: Richard D. Trauben  
(First, Middle [if any], Family Name (or Surname), and Suffix [if any])  
Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_  
Residence Morgan Hill, California USA Citizenship USA  
(City, State, Country) (Country)  
Mailing Address 16745 Jackson Oaks Drive  
Morgan Hill, California 95037 USA

**NAME OF FIFTH INVENTOR:** ☐ A petition has been filed for this undersigned inventor

Full Name: \_\_\_\_\_  
(First, Middle [if any], Family Name (or Surname), and Suffix [if any])  
Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_  
Residence \_\_\_\_\_ Citizenship \_\_\_\_\_  
(City, State, Country) (Country)  
Mailing Address \_\_\_\_\_



**NAME OF SECOND INVENTOR:** ☐ A petition has been filed for this undersigned inventor

Full Name: Laxminarayana Tumuluru  
(First, Middle [if any], Family Name (or Surname), and Suffix [if any])

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence \_\_\_\_\_ Citizenship \_\_\_\_\_  
(City, State, Country) (Country)

Mailing Address \_\_\_\_\_

**NAME OF THIRD INVENTOR:** ☐ A petition has been filed for this undersigned inventor

Full Name: Monis Rahman  
(First, Middle [if any], Family Name (or Surname), and Suffix [if any])

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence \_\_\_\_\_ Citizenship \_\_\_\_\_  
(City, State, Country) (Country)

Mailing Address \_\_\_\_\_

**NAME OF FOURTH INVENTOR:** ☐ A petition has been filed for this undersigned inventor

Full Name: Richard D. Trauben  
(First, Middle [if any], Family Name (or Surname), and Suffix [if any])

Inventor's Signature Richard D. Trauben Date 8/6/03

Residence Morgan Hill, California USA Citizenship USA  
(City, State, Country) (Country)

Mailing Address 16745 Jackson Oaks Drive  
Morgan Hill, California 95037 USA

**NAME OF FIFTH INVENTOR:** ☐ A petition has been filed for this undersigned inventor

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Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence \_\_\_\_\_ Citizenship \_\_\_\_\_  
(City, State, Country) (Country)

Mailing Address \_\_\_\_\_



## Appendix A

I hereby appoint with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith, BLAKELY SOKOLOFF TAYLOR & ZAFMAN LLP, a firm including: Ramin Aghevli, Reg. No. 43,462; William E. Alford, Reg. No. 37,764; Farzad E. Amini, Reg. No. 42,261; W. Thomas Babbitt, Reg. No. 39,591; Jordan M. Becker, Reg. No. 39,602; Michael A. Bemadico, Reg. No. 35,934; Roger W. Blakely, Jr., Reg. No. 25,831; R. Alan Burnett, Reg. No. 46,149; Gregory D. Caldwell, Reg. No. 39,926; Cory G. Claassen, Reg. No. 50,296; Thomas M. Coester, Reg. No. 39,637; Mimi D. Dao, Reg. No. 45,628; Stephen M. De Klerk, Reg. No. 46,503; Daniel M. De Vos, Reg. No. 37,813; Sanjeet Dutta, Reg. No. 46,145; Tarek N. Fahmi, Reg. No. 41,402; Thomas S. Ferrill, Reg. No. 42,532; George L. Fountain, Reg. No. 36,374; Adam Furst, Reg. No. 51,710; Angelo J. Gaz, Reg. No. 45,907; Andre M. Gibbs, Reg. No. 47,593; James Y. Go, Reg. No. 40,621; Jason R. Graff, Reg. No. 54,134; Jeffery Scott Helleeson, Reg. No. 46,765; James A. Henry, Reg. No. 41,064; Willmore F. Holbrow III, Reg. No. 41,845; Sheryl Sue Holloway, Reg. No. 37,850; George W. Hoover II, Reg. No. 32,992; Eric S. Hyman, Reg. No. 30,139; Aslam A. Jaffery, Reg. No. 51,841; Walter T. Kim, Reg. No. 42,731; Eric T. King, Reg. No. 44,188; Steven Laut, Reg. No. 47,736; Suk S. Lee, Reg. No. 47,745; Gordon R. Lindeen III, Reg. No. 33,192; Jan Carol Little, Reg. No. 41,181; Joseph Lutz, Reg. No. 43,765; Michael J. Mallie, Reg. No. 36,591; Andre L. Marais, Reg. No. 48,095; Raul D. Martinez, Reg. No. 46,904; Paul A. Mendonsa, Reg. No. 42,879; Jonathan S. Miller, Reg. No. 48,534; Heather M. Molleur, Reg. No. 50,432; Richard A. Nakashima, Reg. No. 42,023; Thinh V. Nguyen, Reg. No. 42,034; Robert B. O'Rourke, Reg. No. 46,972; Daniel E. Ovanезian, Reg. No. 41,236; Philip A. Pedigo, Reg. No. 52,107; Marina G. Portnova, Reg. No. 45,750; Joseph A. Pugh, Reg. No. 52,137; James H. Salter, Reg. No. 35,668; William W. Schaal, Reg. No. 39,018; James C. Scheller, Reg. No. 31,195; Saina S. Shamilov, Reg. No. 48,266; Kevin G. Shao, Reg. No. 45,095; Stanley W. Sokoloff, Reg. No. 25,128; Judith A. Szepesi, Reg. No. 39,393; Edwin H. Taylor, Reg. No. 25,129; Lisa Tom, Reg. No. 52,291; John F. Travis, Reg. No. 43,203; Kerry D. Tweet, Reg. No. 45,959; Mark C. Van Ness, Reg. No. 39,865; Thomas A. Van Zandt, Reg. No. 43,219; Mark R. Vatuone, Reg. No. 53,719; Lester J. Vincent, Reg. No. 31,460; John P. Ward, Reg. No. 40,216; Mark L. Watson, Reg. No. 46,322; Thomas C. Webster, Reg. No. 46,154; Chui-Kiu Teresa Wong, Reg. No. 48,042; and Norman Zafman, Reg. No. 26,250, my patent attorneys, and Brent Vecchia, Reg. No. 48,011 and Lehua Wang, Reg. No. 48,023, my patent agents, with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; and James R. Thein, Reg. No. 31,710, my patent attorney. I also appoint Alan K. Aldous, Reg. No. 31,905; Rob D. Anderson, Reg. No. 33,826; Jay P. Beale, Reg. No. 50,901; Shireen I. Bacon, Reg. No. 40,494; R. Edward Brake, Reg. No. 37,784; Ben Burge, Reg. No. 42,372; Robert H. Chang, Reg. No. 48,765; George Chen, Reg. No. 50,807; Glen B. Choi, Reg. No. 43,546; Kenneth Cool, Reg. No. 40,570; Ted A. Crawford, Reg. No. 50,610; Robert A. Diehl, Reg. No. 40,992; Jeffrey S. Draeger, Reg. No. 41,000; Cynthia Thomas Faatz, Reg. No. 39,973; Christopher Gagne, Reg. No. 36,142; Sharmini N. Green, Reg. No. 41,410; Robert Greenberg, Reg. No. 44,133; Bradley Greenwald, Reg. No. 34,341; Jeffrey B. Huter, Reg. No. 41,086; Seth Z. Kalsen, Reg. No. 40,670; Peter Lam, Reg. No. 44,855; Issac Lin, Reg. No. 50,672; David C. Lundmark, Reg. No. 42,815; Anthony Martinez, Reg. No. 44,223; Larry Mennemeier, Reg. No. 51,003; Paul Nagy, Reg. No. 37,896; Michael J. Nesheiwat, Reg. No. 47,819; Dennis A. Nicholls, Reg. No. 42,036; Kathy J. Ortiz, Reg. No. 54,351; Lanny Parker, Reg. No. 44,281; Michael D. Plimier, Reg. No. 43,004; Michael Proksch, Reg. No. 43,021; Kevin A. Reif, Reg. No. 36,381; Crystal D. Sayles, Reg. No. 44,318; Kenneth M. Seddon, Reg. No. 43,105; Mark Seeley, Reg. No. 32,299; Ami P. Shah, Reg. No. 42,143; David Simon, Reg. No. 32,756; Steven P. Skabrát, Reg. No. 36,279; Howard A. Skaist, Reg. No. 36,008; Paul E. Steiner, Reg. No. 41,326; Joni D. Stutman-Horn, Reg. No. 42,173; David Tran, Reg. No. 50,804; John F. Travis, Reg. No. 43,203; Robert G. Winkle, Reg. No. 37,474; Sharon Wong, Reg. No. 37,760; Steven D. Yates, Reg. No. 42,242; Calvin E. Wells, Reg. No. 43,256; Michael Willardson, Reg. No. 50,856 and Charles K. Young, Reg. No. 39,435; my patent attorneys and my patent agents, of INTEL CORPORATION; with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.



# BLAKELY SOKOLOFF TAYLOR & ZAFMAN

A LIMITED LIABILITY PARTNERSHIP INCLUDING LAW CORPORATIONS

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SAN JOSE, CA  
SUNNYVALE, CA  
COSTA MESA, CA  
SEATTLE, WA  
DENVER, CO

February 10<sup>th</sup> 2003

Monis Rahman  
93 Rockledge Drive  
South Windsor, CT 06074

*Confidential*  
*Attorney-Client Privilege*

Re: U.S. Patent Application for:  
A TREE DATA STRUCTURE WITH RANGE-SPECIFYING KEYS AND ASSOCIATED  
METHODS AND APPARATUS  
Our File No.: 042390.P17214

Dear Monis:

Enclosed is a Declaration and Power of Attorney and an Assignment which requires your signature for the above-referenced patent application (copy enclosed). The declaration/power of attorney serves two functions. First, it provides a means by which you state that you have read and understand the application, including the claims, and that you are one of the inventors of the invention described in the application. The second function is to provide our firm with the power to prosecute the application before the U. S. Patent and Trademark Office. The assignment form assigns your entire right and interest in the invention to Intel Corporation.

In order to ensure prompt filing of these formal documents, we ask that you sign where indicated and return them at your earliest convenience in the enclosed Fed Ex envelope. **Our nonextensible deadline for providing these signed documents to the US patent office is March 6, 2004.** The patent application will be abandoned thereafter for failure to provide these documents to the US patent office. Thank you for your assistance.

Very truly yours,  
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

  
Greg D. Caldwell

CC: W/ Enclosures  
110-B New Muslim Town  
Lahore, Pakistan



<b>DECLARATION AND POWER OF ATTORNEY FOR PATENT APPLICATION (37 CFR 1.63)</b>		Attorney Docket Number	42P17214
		First Named Inventor	Alex E. Henderson
<input type="checkbox"/> Declaration Submitted with Initial Filing OR <input checked="" type="checkbox"/> Declaration Submitted after Initial Filing (surcharge (37 CFR 1.16(e)) required)		<b>COMPLETE IF KNOWN</b>	
		Application Number	10/637,122
		Filing Date	August 8, 2003
		Art Unit	
		Examiner Name	

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I believe I am the original and first inventor (if only one name listed below) or an original and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled:

<b>Three Data Structure with Range- Specifying Keys and Associated Methods and Apparatus</b>
----------------------------------------------------------------------------------------------

*(Title of the Invention)*

the specification of which

☐ is attached hereto.

OR

☒ was filed on (if applicable):

or 08/08/2003 as United States Application Number 10/637,122  
PCT International Application Number \_\_\_\_\_

and was amended on \_\_\_\_\_ (if applicable)

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Prior Foreign Application(s):

Prior Foreign Application Number(s)	Country	Foreign Filing Date (MM/DD/YYYY)	Priority Not Claimed	Certified Copy Attached?
			<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No
			<input type="checkbox"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No

I hereby appoint the persons listed on Appendix A hereto (which is incorporated by reference and a part of this document) as my respective patent attorneys and patent agents, with full power of substitution and revocation, to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected herewith.

Direct all correspondence to: ☒ Customer Number **08791** or ☐ Correspondence address below

Name <b>Blakely, Sokoloff, Taylor &amp; Zafman LLP</b>			
Address <b>12400 Wilshire Boulevard, 7th Floor</b>			
City <b>Los Angeles</b>	State <b>California</b>	Zip Code <b>90025</b>	
Country	Telephone <b>(503) 684-6200</b>	Fax <b>(503) 684-3245</b>	

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

NAME OF SOLE OR FIRST INVENTOR: ☐ A petition has been filed for this undersigned inventor

Full Name: **Alex E. Henderson**  
*(First, Middle [if any], Family Name (or Surname), and Suffix [if any])*

Inventor's Signature \_\_\_\_\_ Date \_\_\_\_\_

Residence **Hillsborough, California USA** Citizenship **USA**  
*(City, State, Country)* *(Country)*

Mailing Address **40 Denise Drive**  
**Hillsborough, California 94010 USA**



NAME OF SECOND INVENTOR: ☐ A petition has been filed for this undersigned inventor

Full Name:

Laxminarayana Tumuluru

*(First, Middle [if any], Family Name (or Surname), and Suffix [if any])*

Inventor's Signature

Date

Residence

Mountain View, California USA

Citizenship

*(City, State, Country)*

*(Country)*

Mailing Address

PO Box 390869

Mountain View, California 94039 USA

NAME OF THIRD INVENTOR:

☐ A petition has been filed for this undersigned inventor

Full Name:

Monis Rahman

*(First, Middle [if any], Family Name (or Surname), and Suffix [if any])*

Inventor's Signature

Date

Residence

South Windsor, Connecticut USA

Citizenship USA

*(City, State, Country)*

*(Country)*

Mailing Address

93 Rockledge Drive

South Windsor, Connecticut 06074 USA

NAME OF FOURTH INVENTOR:

☐ A petition has been filed for this undersigned inventor

Full Name:

Richard D. Trauben

*(First, Middle [if any], Family Name (or Surname), and Suffix [if any])*

Inventor's Signature

Date

Residence

Morgan Hill, California USA

Citizenship USA

*(City, State, Country)*

*(Country)*

Mailing Address

16745 Jackson Oaks Drive

Morgan Hill, California 95037 USA

NAME OF FIFTH INVENTOR:

☐ A petition has been filed for this undersigned inventor

Full Name:

*(First, Middle [if any], Family Name (or Surname), and Suffix [if any])*

Inventor's Signature

Date

Residence

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## Appendix A

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No. 54,391; James H. Salter, Reg. No. 35,668; William W. Schaal, Reg. No. 39,018; James C. Scheller, Reg. No. 31,195; Kevin G. Shao, Reg. No. 45,095; Stanley W. Sokoloff, Reg. No. 25,128; Judith A. Szepesi, Reg. No. 39,393; Edwin H. Taylor, Reg. No. 25,129; Lisa Tom, Reg. No. 52,291; John F. Travis, Reg. No. 43,203; Kerry D. Tweet, Reg. No. 45,959; Mark C. Van Ness, Reg. No. 39,865; Thomas A. Van Zandt, Reg. No. 43,219; Mark R. Vatuone, Reg. No. 53,719; Lester J. Vincent, Reg. No. 31,460; John P. Ward, Reg. No. 40,216; Mark L. Watson, Reg. No. 46,322; Thomas C. Webster, Reg. No. 46,154; Chui-Kiu Teresa Wong, Reg. No. 48,042; and Norman Zafman, Reg. No. 26,250, my patent attorneys, and Chze Koon Chua, 53,831; Brent Vecchia, Reg. No. 48,011 and Lehua Wang, Reg. No. 48,023, my patent agents, with offices located at 12400 Wilshire Boulevard, 7th Floor, Los Angeles, California 90025, telephone (310) 207-3800; and James R. Thein, Reg. No. 31,710, my patent attorney. I also appoint Alan K. Aldous, Reg. No. 31,905; Rob D. Anderson, Reg. No. 33,826; Jay P. Beale, Reg. No. 50,901; Shireen I. Bacon, Reg. No. 40,494; R. Edward Brake, Reg. No. 37,784; Ben Burge, Reg. No. 42,372; Robert H. Chang, Reg. No. 48,765; George Chen, Reg. No. 50,807; Glen B. Choi, Reg. No. 43,546; Kenneth Cool, Reg. No. 40,570; Ted A. Crawford, Reg. No. 50,610; Robert A. Diehl, Reg. No. 40,992; Jeffrey S. Draeger, Reg. No. 41,000; Cynthia Thomas Faatz, Reg. No. 39,973; Christopher Gagne, Reg. No. 36,142; Sharmini N. Green, Reg. No. 41,410; Robert Greenberg, Reg. No. 44,133; Bradley Greenwald, Reg. No. 34,341; Jeffrey B. Huter, Reg. No. 41,086; Seth Z. Kalson, Reg. No. 40,670; Peter Lam, Reg. No. 44,855; Issac Lin, Reg. No. 50,672; David C. Lundmark, Reg. No. 42,815; Anthony Martinez, Reg. No. 44,223; Larry Mennemeier, Reg. No. 51,003; Molly A. McCall, Reg. No. 46,126; Paul Nagy, Reg. No. 37,896; Michael J. Nesheiwat, Reg. No. 47,819; Dennis A. Nicholls, Reg. No. 42,036; Kathy J. Ortiz, Reg. No. 54,351; Lanny Parker, Reg. No. 44,281; Michael D. Plimier, Reg. No. 43,004; Michael Proksch, Reg. No. 43,021; Kevin A. Reif, Reg. No. 36,381; Crystal D. Sayles, Reg. No. 44,318; Russell C. Scott, Reg. No. 43,103; Justin B. Scout, Reg. No. 54,431; Kenneth M. Seddon, Reg. No. 43,105; Mark Seeley, Reg. No. 32,299; Ami P. Shah, Reg. No. 42,143; David Simon, Reg. No. 32,756; Steven P. Skabrat, Reg. No. 36,279; Howard A. Skaist, Reg. No. 36,008; Paul E. Steiner, Reg. No. 41,326; Joni D. Stutman-Horn, Reg. No. 42,173; David Tran, Reg. No. 50,804; John F. Travis, Reg. No. 43,203; Robert G. Winkle, Reg. No. 37,474; Sharon Wong, Reg. No. 37,760; Steven D. Yates, Reg. No. 42,242; Calvin E. Wells, Reg. No. 43,256; Michael Willardson, Reg. No. 50,856 and Charles K. Young, Reg. No. 39,435; my patent attorneys and my patent agents, of INTEL CORPORATION; with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith. with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith.



Title 37, Code of Federal Regulations, Section 1.56  
Duty to Disclose Information Material to Patentability.

(a) A patent by its very nature is affected with a public interest. The public interest is best served, and the most effective patent examination occurs when, at the time an application is being examined, the Office is aware of and evaluates the teachings of all information material to patentability. Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section. The duty to disclose information exists with respect to each pending claim until the claim is cancelled or withdrawn from consideration, or the application becomes abandoned. Information material to the patentability of a claim that is cancelled or withdrawn from consideration need not be submitted if the information is not material to the patentability of any claim remaining under consideration in the application. There is no duty to submit information, which is not material to the patentability of any existing claim. The duty to disclose all information known to be material to patentability is deemed to be satisfied if all information known to be material to patentability of any claim issued in a patent was cited by the Office or submitted to the Office in the manner prescribed by §§1.97(b)-(d) and 1.98. However, no patent will be granted on an application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct. The Office encourages applicants to carefully examine:

- (1) Prior art cited in search reports of a foreign patent office in a counterpart application, and
- (2) The closest information over which individuals associated with the filing or prosecution of a patent application believe any pending claim patentably defines, to make sure that any material information contained therein is disclosed to the Office.

(b) Under this section, information is material to patentability when it is not cumulative to information already of record or being made of record in the application, and

- (1) It establishes, by itself or in combination with other information, a prima facie case of unpatentability of a claim; or
- (2) It refutes, or is inconsistent with, a position the applicant takes in:
  - (i) Opposing an argument of unpatentability relied on by the Office, or
  - (ii) Asserting an argument of patentability.

A prima facie case of unpatentability is established when the information compels a conclusion that a claim is unpatentable under the preponderance of evidence, burden-of-proof standard, giving each term in the claim its broadest reasonable construction consistent with the specification, and before any consideration is given to evidence which may be submitted in an attempt to establish a contrary conclusion of patentability.

(c) Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) Each inventor named in the application;
  - (2) Each attorney or agent who prepares or prosecutes the application; and
  - (3) Every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application.
- (d) Individuals other than the attorney, agent or inventor may comply with this section by disclosing information to the attorney, agent, or inventor.

(e) In any continuation-in-part application, the duty under this section includes the duty to disclose to the Office all information known to the person to be material to patentability, as defined in paragraph (b) of this section, which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application.



## ASSIGNMENT

In consideration of good and valuable consideration, the receipt of which is hereby acknowledged, we, the undersigned:

**Alex E. Henderson; Laxminarayana Tumuluru; Monis Rahman; Richard D. Trauben**

hereby sell, assign, and transfer to:

**Intel Corporation**

a Corporation of Delaware, having a principal place of business at 2200 Mission College Boulevard, Santa Clara, California 95052 USA ("Assignee"), and its successors, assigns, and legal representatives, the entire right, title, and interest for the United States and all foreign countries, in and to any and all inventions and improvements that are disclosed in the application for the United States patent filed on August 8, 2003, and assigned Application No. 10/637,122 and is entitled:

**Three Data Structure with Range- Specifying Keys and Associated Methods and Apparatus**

and in and to said application and all design, utility, divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications that have been or shall be filed in the United States and all foreign countries on any of said inventions and improvements; and in and to all original and reissued patents that have been or shall be issued in the United States and all foreign countries on said inventions and improvements; and in and to all rights of priority from the filing of said United States applications;

agree that said Assignee may apply for and receive a patent or patents for said inventions and improvements in its own name; and that, when requested, without charge to, but at the expense of, said Assignee, its successors, assigns, and legal representatives, to carry out in good faith the intent and purpose of this Assignment, the undersigned will execute all design, utility, divisional, continuing, continuation-in-part, substitute, renewal, reissue, and all other patent applications on any and all said inventions and improvements; execute all rightful oaths, assignments, powers of attorney, and other papers; communicate to said Assignee, its successors, assigns, and legal representatives all facts known to the undersigned relating to said inventions and improvements and the history thereof; and generally assist said Assignee, its successors, assigns, or legal representatives in securing and maintaining proper patent protection for said inventions and improvements and for vesting title to said inventions and improvements, and all applications for patents and all patents on said improvements, in said Assignee, its successors, assigns, and legal representatives; and



covenant with said Assignee, its successors, assigns, and legal representatives that no assignment, grant, mortgage, license, or other agreement affecting the rights and property herein conveyed has been made to others by the undersigned, and that full right to convey the same as herein expressed is possessed by the undersigned.

Each Inventor: Please Sign and Date Below:

---

Date \_\_\_\_\_ Name: Alex E. Henderson

Date \_\_\_\_\_ Name: Laxminarayana Tumuluru

Date \_\_\_\_\_ Name: Monis Rahman

Date \_\_\_\_\_ Name: Richard D. Trauben

Date \_\_\_\_\_ Name: \_\_\_\_\_

Date \_\_\_\_\_ Name: \_\_\_\_\_

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Date \_\_\_\_\_ Name: \_\_\_\_\_

Date \_\_\_\_\_ Name: \_\_\_\_\_

Date \_\_\_\_\_ Name: \_\_\_\_\_

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